

Printing Technology: Learning to be Safer

The Printing Technology Program at the Lincoln branch of Southeast Community College uses solvents to clean up the rollers and blankets on the students' printing presses. Under the guidance of instructor Randee Soto, students switched to a lower vapor pressure blanket wash. The switch was made in response to strong odors near the presses, occasional complaints from people passing in the hallway, and a concern for student and instructor health.



The old blanket wash had a vapor pressure of 5.3 millimeters of mercury (mm Hg) at room temperature. Strong odors were released as soon as the wash was applied to rags. The wash contained about 25% by weight methylene chloride, a suspected carcinogen, as well as a small percentage of benzene, which causes leukemia in humans. The new blanket wash has a vapor pressure of 2.6 mm Hg; 50% lower than the old product. It also contains less toxic compounds.

Technical assistance staff from the Lincoln-Lancaster County Health Department (LLCHD) made indoor air measurements to assess results of the change in cleanup solvent. Total volatile organic compound concentrations were between two and ten times lower with the new cleanup solvent. Odors in the student press area were also noticeably reduced after the change. Printing technology students now work in a safer atmosphere and leave the program trained in using a safer cleanup solvent.

For more information, contact Randee Soto at 437-2676.

The P2 Corner

The P2 Tool on Your Desk

When trying to find information about pollution prevention, one of your best tools may be sitting on your desk. If you have a computer hooked up to the internet, you can find a world of information and products. Many of these products are less hazardous than some you might be using.

Most of the websites that you can access are hosted by government agencies (.gov) or educational units (.edu). Some are organizations (.org) of concerned citizens or businesses, like your own. The information is free and, usually, up-to-date.

One such site is the **Enviro\$en\$e website: <http://es.epa.gov/>**. This site contains information about alternative products, notebooks for a wide range of business sectors, and additional resources for information.

The section **<http://es.epa.gov/vendors>** provides lists of vendors who offer environmentally safe products. These products may be alternatives to solvents, lubricants, or other materials you might currently be using.

You can search for information on this site in several ways. You can fill in a box and click on "search" or you can select the section that identifies the type of product about which you want more information. You can select a vendor from a list to contact for more information about the products they offer.

Another section, **<http://es.epa.gov/oeca/sector/index.html>**, contains the sector notebooks. These notebooks contain pollution prevention and waste minimization guidelines for different types of businesses (business sectors). The notebooks can be ordered directly from the United States Environmental Protection Agency. Most can also be downloaded in Word Perfect (for DOS or Windows), in PDF format, or in a form usable by Macintoshes. You can then browse for the information you need on your computer screen and save

the document on your hard drive for further research.

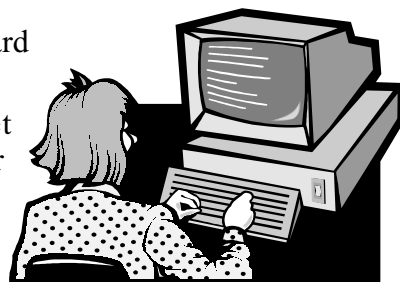
Another good internet source of information for small businesses is the **Small Business Environmental Home Page ([http://www.smallbiz-](http://www.smallbiz-enviroweb.org/)**

[enviroweb.org/](http://www.smallbiz-enviroweb.org/)). This site is a list of lists. That is, you can select a topic, such as "Small Business Assistance," to find sources of information. Topics and resources include names and websites of assistance providers, an online manual (in PDF format) put out by the Iowa Waste Reduction Center, and news from several states.

There are many other sites on the internet that can help businesses reduce waste, cut costs, and protect the environment. Most of these can be accessed using the "links" section of other web sites. (Going from link to link is the classic method of surfing the internet for information.) You can also use your service provider's search function.

Be careful however: your search will likely give you all the sites that contain the word or words you are looking for. Thus a search for *pollution prevention* would give you every site with the word *pollution* in it and every site with the word *prevention* in it and only some with **both** words. Most would not apply to what you want. If you put quotation marks around the words or if you can refine the search command in any way, your chances of success are greater.

While you are surfing the net, be sure to check out the **Lincoln-Lancaster County Health Department's Environmental Health** web page (**<http://interlinc.ci.lincoln.ne.us/InterLinc/city/health/environ/pollu/index.htm>**) for up-to-date, local information. There you will find past issues of *The Ethic* as well as much additional information aimed at helping you solve your environmental challenges and meet your regulatory needs.



TIPS.

SURFACE COATING OPERATIONS

Many paint and surface coating businesses that use halogenated solvents and paints are faced with increased regulations and costs. High volatile organic compound (VOC) paints are costly and hazardous to use. More and more, such businesses are converting to powder coating alternatives. As a P2 alternative, these products benefit the user in many ways.



- ⊙ Compared to traditional solvent-based coatings, powder coatings have lower VOC levels. Lower VOC levels means that the powder coating material is less hazardous.
- ⊙ Because powder coatings have a higher solids content, less volume is needed to coat a given surface. This lower volume saves money because the coating material will go farther and the business can purchase smaller amounts.

Despite the relative safety of powder coating, there are some common sense steps a business owner should take to protect human health and the environment. The owner should take these steps no matter what type of coating material the business uses.

- ⊙ Spray only in properly restricted areas such as spray booths and use proper safety equipment, such as goggles and respirators. Because of the higher level of solids, powder coatings can produce a large amount of airborne particles.
- ⊙ Purchase only as much material as needed to do the job. Over-purchasing with the goal of creating a stockpile or surplus often leads to waste, storage and safety costs, and disposal costs. (The concept here is: buy all that you will need, but use all that you buy.)
- ⊙ Purchase in bulk when possible (within the guidelines of the above comments) and in the largest container possible for the volume. Purchasing a number of smaller volume containers results in more containers to discard.
- ⊙ Schedule jobs so that like colors are used at the same time. Proper scheduling can reduce the amount of mixing and cleaning. Such a reduction saves time and money. Mix left over light colors into darker colors where possible.
- ⊙ Contract with vendors to return containers to be refilled.

- ⊙ Use a first-in, first-out rotation schedule.
- ⊙ Test expired coating to see if it still meets quality requirements. Perhaps it can be used in certain applications.
- ⊙ Give or sell surplus coating materials to other businesses, schools, or civic or service groups. Ask the vendor to take it back.
- ⊙ Keep unauthorized people out of storage areas. Keeping these areas secured will reduce spills and accidents. Keep the storage areas clean. If there is a spill, it will be easily seen. Be sure to keep the temperature at proper levels in the storage area. (See the product label or MSDS to determine what temperature levels each product requires.) Check with the vendor, the product label, or the product MSDS to determine which products can and cannot be stored in the same area.
- ⊙ Keep coating material containers closed to keep out dirt moisture.
- ⊙ Train employees on handling materials and wastes safely. Encourage continuous improvement.



Taken from Paintings and Coatings Resource Center (P&CRC) website:

<http://www.paintcenter.org/ctc/Powder2.htm>

A QUOTE TO NOTE

Any company that claims to have a concern for the environment must also consider the environmental impact of the products/raw material that it buys to produce its own products. Buying from a company with a poor environmental record extends the problem to the purchaser, who then cannot claim to be blameless with respect to environmental concerns. Part of the environmental policy should deal with the need to purchase from environmentally clean suppliers, complete with inspections of their facility and EMS [*environmental management system*] to determine if what is stated is true.

—JOHN ORSER

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<http://interlinc.ci.lincoln.ne.us/InterLinc/city/health/envIRON/pollu/index.htm>

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For more information or for P2 technical assistance, call 441-8040.

Please circulate this issue among your staff and coworkers.

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RETURN SERVICE REQUESTED

